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SAFE HOME PROGRAM

FACT SHEET #4

HOUSEHOLD WASTEWATER

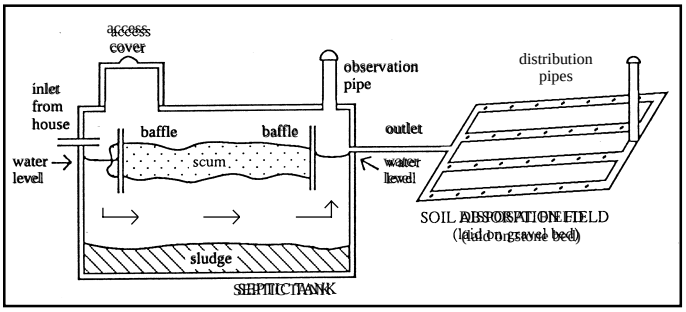
Why Should I Be Concerned?

There are over 300,000 septic systems in Maine. Your septic system takes in wastewater from your home and discharges it back into the ground water system. The care you take maintaining your system and using it properly can reduce its effect on ground water quality. In many areas where people use septic systems, they also rely on drinking water from wells. A system that is improperly sited, improperly maintained, or overloaded, can discharge bacteria, viruses, nitrates, and hazardous chemicals to ground water — the same water you use for drinking water. Even if your well or your neighbor's well isn't affected, the contaminants in the ground water may travel to nearby surface waters (lakes, streams, or coastal waters). This can harm lakes, rivers, and bays by increasing algae growth and threatening fish and may result in closed shellfish harvesting areas.

The choice to maintain your septic system properly will protect ground water, lakes, rivers, the ocean and your property values. The best news is that regular maintenance is cheaper than repairing or replacing a failed system!

How Does a Septic System Dispose of Wastewater?

What you put into your septic system through toilets, sinks, tubs and floor drains affects the quality of the wastewater and the ability of the system to handle it. Wastewater and the solids it carries travel into the septic tank. In the tank, most solids settle to the bottom, where bacteria partially break down the materials, forming sludge. Some material floats on the water, forming a layer of scum. The waste water flows into the disposal field, carrying viruses, bacteria, nitrate and any chemicals added to the water.



The most common disposal field design uses perforated pipe laid on a bed of screened or crushed stone. The size of the disposal field depends on the number of people using the system and on the permeability of the soil. Each perforated pipe, or distribution line, carries the wastewater into the field where the water moves through the stone and into the soil.

A joint water quality project from:

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The soil acts as a filter by removing larger particles from the wastewater, and slows the rate of travel of the water. This allows time for bacteria and viruses to die off, and for bacteria in the soil to break down some of the organic compounds. However, soil and bacteria may not remove many of the toxic chemicals that come from putting cleaners, polishes and detergents into the septic system. These chemicals contaminate the sludge in the septic tank, travel into ground water, and may kill the good bacteria that break down organic materials carried by wastewater.

Maintaining Your Septic System

The average life of a septic system is 15 to 25 years. How long yours will last depends on many factors, including: size, amount of use, how often you pump it and what you put in the system. Here are some tips for better septic system performance.

1. Use less water! Less water in the tank allows better settling of solids. The result is that fewer solids make it to the disposal field, so the leach lines are less likely to clog. A few ideas to decrease water use:

- Do only full dishwasher and laundry loads and take shorter showers.
- Use low-flow toilets, faucets and shower heads.
- Fix dripping faucets or leaky toilets immediately.
- Run water only when needed (for example, to rinse when shaving or brushing teeth).

Spread out activities that use a lot of water over the day or week. For example, don't run the dishwasher, do laundry **and** take showers all in a short period of time. Give the system a chance to work between large doses of water. This allows solids to settle in the septic tank and time for the bacteria in the tank and the soil to do their work.

2. Don't put chemicals into your septic system. Household chemicals kill the good bacteria that help your septic system work and can contaminate the sludge, making sludge disposal more dangerous. Chemicals also travel through the disposal field and contaminate ground water. **Chemical additives and treatments said to prolong the life of your system are not reliable and cannot substitute for regular pumping.** These products may hurt your system by keeping solids in suspension, which then travel to and clog the disposal field.

3. Don't use the toilet as a wastebasket. Non-biodegradable materials such as diapers, sanitary napkins and cigarette butts will not break down in a septic tank. Flushing them down the toilet will cause the septic tank to fill faster and adds to litter problems when septage is spread. Avoid putting large amounts of fats and grease into your septic system.

4. Don't use a garbage disposal. Finely ground solids can travel through the septic tank and clog the disposal field.

5. Have your septic tank pumped every three to five years. Timely pumping can extend the life of your system. Pumping a tank costs between $50 and $150. This is much cheaper than $3,000 to $5,000 for a new leachfield. Some towns, neighborhoods or lake associations get together to arrange for a pumper to service an area at a reduced rate. This option may be available in your area.

6. Keep surface water away. Septic systems shouldn't handle unnecessary water; divert roof drains and house footing drains and runoff from driveways and hillsides away from the septic system area.

7. Keep records of your system, including a pumping schedule, name of installer, age of system and a sketch of the location on your lot. This will help you maintain the system and boost the confidence of future buyers that the system is well cared for. (See the Septic System Record Sheet.)

How Do I Know if My Septic System Is Not Working?

Common signs that your septic system is not working include:

- Wet areas or areas of lush green growth in your lawn.
- Sewage odors.
- Slow draining of pipes or backup of wastewater into your home.
- Ponding or outbreak of wastewater onto the ground surface.

The cause of the problem could be clogged pipes between the house and the septic tank or a clogged distribution line or disposal field. If a heavy vehicle has driven over the field or a tree has fallen on it, the problem may be a broken or displaced distribution line. Also check the level of sludge in your septic tank, or have the level checked by a septic tank pumper or plumber. The tank could need pumping!

Solutions to septic system problems depend on the cause: snakes may be used for some blockages of pipes; broken pipes must be replaced; or it may be necessary to pump the tank. If you see wet areas in your leachfield and you haven't had the septic tank pumped in a long time, simply pumping the tank may not be enough. Solids may have travelled out of the tank and clogged the disposal field. Finally, how old is your septic system? The life span of a typical disposal field is about 25 years. Eventually all septic systems will need to be replaced.

I'm on a Sewer System; What Can I Do to Protect Water Quality?

Sewer lines take wastewater to a central sewage treatment plant. Primary treatment removes solids by passing water through a series of grates, screens, skimmers and settling tanks. Secondary treatment uses bacteria to break down organic material still in the wastewater. This process removes most of the suspended solids and disease-causing bacteria. The wastewater is often treated with chlorine at this stage. In some cases, tertiary treatment is used to further clean the wastewater, but this step is expensive, so it is not frequently used.

Don't dump chemicals into household drains or storm drains that are connected to treatment plants, or in gutters or on roads where chemicals can wash into storm sewer systems. Chemicals can contaminate treatment plant sludge, cause the plant to exceed its discharge limits for contaminants, and harm fish and wildlife.

Use less water. The less water a treatment plant has to process, the less treatment capacity is needed. New, larger plants are costly. The longer an existing plant lasts, the lower the burden on rate payers and taxpayers.

Septic System Worksheet

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This worksheet will help you assess how your activities at home could impact your septic system. A low risk means that you are using your wastewater treatment system safely and effectively. A high risk does not mean that you will have a problem with your system, but it does show that the conditions are right for a problem to develop. If any one category has a score of three or higher, you should find a way to correct the situation. Contact someone on the reference sheet for help. Choose the answer that best describes your situation.

Home Activities	High Risk (4)	Moderate-High Risk (3)	Low-Moderate Risk (2)	Low Risk (1)	Your Rank
Quality of Wastewater	Extensive use of household chemicals, moderate/extensive use of toxic solvents and cleaning agents	Moderate use of household chemicals, some disposal of solvents and toxic cleaners including chemical septic tank cleaners	Careful use of household chemicals, no disposal of solvents and toxic cleaners, no water softener or not recharged on site	Rare use of household chemicals, no disposal of solvents and toxic cleaners, no water softener or not recharged on site	
Septic Tank	No septic tank, or if present it leaks badly, is 500 gallons or less in size, and/or is made of uncoated metal	Tank allows some leakage, is slightly undersized*, and/or is made of uncoated metal	Tank allows some leakage, is properly sized*, and is made of coated metal or concrete	Septic tank is properly sized*, made of concrete, and is water-tight	
System Maintenance	Tank has never been pumped and is older than 6 years.	Tank pumped “only when necessary”, more than 6 years between pumping	Septic tank pumped every 4 to 6 years	Tank pumped every 2 to 4 years	
System Age	System installed prior to 1974	System 11 to 20 years old	System 5 to 10 years old	System less than 5 years old	
Leachfield Soil Type	Coarse sands or gravels OR soils that are very shallow to ledge OR a high seasonal water table	Fine loam or clay soils with a high seasonal water table or firm restrictive layer (wet areas linger in spring)	Coarse loamy soil with seasonal high water table or restrictive layer	Soils are well-drained (sandy soils)	

*750 gallons capacity for 1-2 bedrooms, 1,000 gallons capacity for 3-4 bedrooms, and 250 gallons additional capacity for each bedroom over 4.

Septic System Maintenance Record

Your Septic System Installer

Name _____

Address _____

Phone _____

Date Installed _____

Your Septic System Pumper

Name _____

Address _____

Phone _____

Maintenance Record

Keeping a record of your septic system maintenance will help you anticipate when the next cleaning may be needed.

Size of Tank: _____ (gallons)

Date	Work Done	Firm	Cost

Map of Septic System and Disposal Field

1. Make a rough sketch locating your septic tank and disposal field in relation to surrounding reference points. Begin by sketching your house, driveway, water well and other landscape features such as trees, rocks or fences.

2. Measure and record distances from your house to the cover of your septic tank and to the corner of your disposal field, if possible. As long as the distances are correct, do not be concerned whether or not the drawing is to scale.

3. Keep this information on file as a permanent record for use in maintenance and to pass on to subsequent owners.

DRAW YOUR MAP HERE